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known. This mineral occurs in pale grayish yellow, stellate masses, somewhat resembling karpholite or pyrophyllite. It is associated with calcite. The stellate aggregation is readily friable as it breaks into minute prismatic particles. Made into an artificial splinter, the substance fuses in the oxydizing flame to a black glass. Heated in a closed tube it yields abundant water at a red heat, changing its color to chocolate brown. The water does not act acid, nor corrode glass. Carefully dissolved in a borax bead, the latter remains colorless at first, then gradually assumes the characteristic manganese color. The powder dissolves in hot concentrated hydrochloric acid but does not gelatinize. The specific gravity (determined with 1.4230 gram.) is 2.981.

The analysis gave

SiO^2 = 39·00
MnO = 42·12
H^2O = 8·44
FeO = 3·75
ZnO = 2·86
MgO = 3·83

100·00

The determination of iron was lost, its quantity is made up by the difference. Manganese is present as MnO; (the peculiar behavior in borax mentioned above, and the absence of any evolution of chlorine, when dissolved in HCl are proofs of this assertion.) Calcium is only present in traces and was weighed with the magnesia.

If we calculate the molecular ratio of the oxyds we obtain
(MnO, H^2O, FeO, ZnO, MgO) : SiO^2 = 1 : 231 : 0·65 = 1·89 : 1 = 2 : 1.

This is the ratio of an orthosilicate, and in fact is the molecule of Tephroite, in which a considerable portion of manganese is replaced by water. That the water must be considered as basic, follows from the fact that none is expelled at 200° C. The low specific gravity is very extraordinary and seems to indicate a polymeric condition of the molecule. The name *Bementite* is proposed for this species.

Remarks on Hydra:—PROF. LEIDY remarked that in our fresh waters there occur two well marked species of hydra, the one of a bright green color, the other pale brownish or reddish. He continued, these, judging from descriptions and figures, appear to him to be the same as the European species *H. viridis* and *H. fusca*. The late Prof. L. Agassiz regarded them as different and named them *H. gracilis* and *H. carnea* (Proc. Bos. Soc. Nat. Hist. 1850, 354.) Familiar as he was with both the European and American animals his opinion might be considered conclusive, but the only distinctive character he assigns to each seems not to be correct. Of our green hydra he observes that unlike the European it has the power of extending its body in a remarkable degree. Opposed to this view, Rösel in 1755, represents *H. viridis* in the same condition and with the arms in the same proportionately short state (Insecten Belustigung, Theil 3, Tab. 88, Fig. 4.) In other characters, the speaker found our green Hydra to accord with *H. viridis;* and further in respect to the sexual organs. Prof. Allen Thompson describes the latter as producing a single ovary near the middle of the body and two or three spermaries from the body just below the arms (Edinburgh Philos. Jour. 1847, 281.) The same condition he had observed in our green hydra, as represented in the drawings exhibited. As regards our brown hydra, Agassiz gives as the distinctive character, that it has very short arms while the European has long ones. Ordinarily this appears to be the case, but on several occasions the speaker had observed our brown hydra, after it had been kept some time in an aquarium where there was comparatively little food, elongate its arms, extremely attenuated, even to a length of three inches. In this condition it closely resembled in appearance the beautiful figure of *H. fusca* in figure 1, plate 64. of the Regne Animal of Cuvier.

He had the opportunity of seeing both the green and brown hydra west of the Rocky Mts. and these he found to accord in character with our eastern forms. In specimens collected in a lake in the Uinta Mts., Wyoming T., at 10.000 feet elevation, the brown hydra at first was brick red with a brighter red head, but after keeping it for a week, it assumed the pale brown hue as ordinarily observed in the animal nearer home.

The characters of the two American forms as observed by him are as follows:—

Hydra viridis? The green hydra. Animal bright grass green sometimes paler. Body when moderately elongated cylindro-conical, tapering towards the caudal end; when contracted oval or spheroid, when greatly extended linear cylindrical. Head conical. Arms four to seven, commonly six, about half the length of the body, linear, capable of extension to about the length of the body or slightly more. In the sexually mature state:—testes hemispherical surmounted by a nipple-shaped prominence, situated on the sides of the body just below the arms; ovary single, projecting from near the middle of the body and containing a single, spherical, white egg, enclosed in a brownish covering. Animal usually three or four lines long, capable of extension to twice the length or contracting to less than a line. In ponds and ditches in the vicinity of Philadelphia and other places, though not common. Observed on one occasion in the sexually mature condition late in autumn. In the individuals observed the sexes were separate; the males with the two testes, and the females with a single ovary. The ovum measured 0·375mm in diameter. In the sexually mature *H. viridis* observed by Prof. A. Thompson, individuals were hemaphrodite while in others the sexes were separate.

HYDRA FUSCA? The brown hydra. Animal more robust than the former, of the same shape and number of arms, but with the body less attenuated when extended and with the arms habitually longer in proportion to the body, but capable of extension to six times the length of the latter. Color usually pale brownish or reddish; sometimes deeper, sometimes paler. In ponds and common on the under side of stones in the Schuylkill and Delaware Rivers, in the vicinity of Philadelphia. Not observed in the sexually mature condition. The color of the animal in a measure appears to depend on the nature of the food; and it may become a bright red, of variable tint, by feeding on similar colored entomostraca or insect larvæ (See Proc. 1880, 156.) From prolonged abstinence the color fades and the animal becomes almost white.

Craig D. Ritchie was elected a member.

The following were ordered to be published:—